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HELMINTHOLOGICAL ABSTRACTS

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For the Year 1941.



IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY
(HELMINTHOLOGY)

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FOR THE YEAR 1941.

Vol. X, Part 2.

46—Acta Medica Philippina.

- a. DIÑO, B. R., LEON, W. DE & GALVEZ, A. A., 1941.—“*Schistosoma japonicum* eggs as a cause of appendicitis in filipinos.” 2 (3), 277-287.

47—Acta Pathologica et Microbiologica Scandinavica.

- *a. ROTH, H., 1941.—“Die Wirkung von Muskeltrichinen in Immunserum. Eine neue Präzipitinreaktion auf Trichinosis.” 18 (1), 160-167.

(47a) Roth describes a modified precipitin test for the identification of trichinosis, which depends on the fact that microscopic precipitates are formed round living larvae of *Trichinella* when incubated in serum containing specific antibodies. [From an abstract in Z. Fleisch- u. Milchhyg., 51, p. 146.] P.A.C.

48—American Journal of Clinical Pathology.

- a. McNAUGHT, J. B., BEARD, R. R. & MYERS, J. D., 1941.—“The diagnosis of trichinosis by skin and precipitin tests.” 11 (3), 195-209.

(48a) McNaught, Beard & Myers discuss the use of the intradermal and precipitin tests in the diagnosis of trichinosis. They describe in detail their methods of making the antigen and of carrying out the tests. Both tests are useful. In early days of infection only the delayed action of the intradermal test will appear. By the second or third week the patient will give the immediate reaction as well, and it is not until a few days later still that the presence of precipitins can be demonstrated. Both the tests have a high degree of efficiency and during routine examinations of unselected people the authors were able to point out 6.7% of unsuspected cases. The tests should be used in conjunction with the usual clinical technique. P.A.C.

49—American Journal of Diseases of Children.

- a. BROWN, H. W. & OTTO, G. F., 1941.—“The differential leukocyte count associated with hookworm infection.” 61 (4), 727-733.

50—American Journal of Hygiene. Section D. Helminthology.

- a. HEARIN, J. T., 1941.—“Studies on the acquired immunity to the dwarf tapeworm, *Hymenolepis nana* var. *fraterna*, in the mouse host.” 33 (3), 71-87.
b. JONES, M. F. & JACOBS, L., 1941.—“Studies on oxyuriasis. XXIII. The survival of eggs of *Enterobius vermicularis* under known conditions of temperature and humidity.” 33 (3), 88-102.
c. MAYHEW, R. L., 1941.—“Studies on bovine gastrointestinal parasites. V. Immunity to the stomach worm, with a note on the prepatent period.” 33 (3), 103-111.
d. PALMER, E. D., 1941.—“The course of the daily egg output during an early infection with the hookworm *Necator americanus*.” 34 (1), 1-12.

* Original not available for checking or abstracting.

- e. OTTO, G. F. & BRAND, T. VON, 1941.—“Natural and experimental calcification in *Capillaria hepatica* infection.” 34 (1), 13-17.
f. MELENEY, H. E., 1941.—“Trichinosis in human diaphragms in Nashville, Tennessee.” 34 (1), 18-22.

(50a) Hearin shows experimentally that a strong immunological reaction occurs in mice following infection with *Hymenolepis nana* var. *fraterna*, and that this immunity is the direct result of the development of humoral antibodies. Immunity from an initial infection is complete, remains so for at least 163 days, and is established within 12 hours of infection. Even though the worms may be removed the resistance remains for at least 141 days. Experimental introduction of adult worm material was not effective in setting up resistance, but intraperitoneal injection of immune serum was effective, particularly when given before the test doses.

P.A.C.

(50b) Jones & Jacobs have used the ability to hatch active larvae in artificial digestive juice to determine the survival of *Enterobius vermicularis* eggs under known conditions of temperature and humidity. Eggs on water at 3° to 5°C. showed usually over 90% hatching and survival for as long as three weeks. In experiments run for shorter periods eggs kept on water at higher temperatures (20° to 31° C.) showed only a slight decrease in survival, as compared with refrigerated eggs. On a dry base and with relative humidity between 30 and 54 the time of survival of the eggs diminished with increasing temperatures. The authors add, however, that recovery is possible if such eggs are subjected to more favourable conditions as regards moisture. Thus for control the value of relatively dry atmospheres and high temperatures are demonstrated.

M.R.Y.

(50c) Mayhew has examined the resistance of calves to infection with *Haemonchus contortus*, using the egg content of the faeces to estimate the degree of infection. He has noted that the weight of infection is not correlated with the degree of immunity established. Resistance seems to be established after the adult worms were present at a period of from 4 to 10 weeks following the first appearance of eggs in the faeces.

P.A.C.

(50d) Palmer suggests that the results of faecal examinations for eggs of *Necator americanus* should be expressed as numbers of egg per c.c., a homogeneous mixture of faeces in water having first been made. Random egg counts of portions of formed stool do not give a reliable estimate of the total egg content, for the eggs are distributed in a very uneven manner throughout the bulk of the faecal material. He shows that the variation in the rate of egg output seems to be due to variation in faecal output, for while the egg output is increasing the faecal output is fluctuating about a constant mean. A comparison of the efficiency of the Stoll and the zinc sulphate techniques seemed to show that the Stoll method was superior, but this was found to be due to the fact that degenerate or unfertilized eggs did not float in zinc sulphate solution.

P.A.C.

(50e) Otto & Brand have examined the course of calcification in lesions of *Capillaria hepatica* in rats fed from 1,000 to 3,500 embryonated eggs. The process differs from that found in *Trichinella spiralis* in that it is very rapid and that there is a complete absence of calcium in the connective tissue capsule. Attempts to force the process were made by subcutaneous

injections of parathormone and often resulted in the death of the animal after a few days. Such attempts were not successful in increasing the intensity of the reactions that had already begun, but they were able to cause calcification at an abnormally early age. In such animals there were often deposits of calcium in the liver cells. P.A.C.

(50f) An examination of 209 human diaphragms in Nashville, Tennessee, showed 10% to be infected with *Trichinella spiralis*. The highest incidence was found in persons aged from 40 to 50 years. There is some evidence that the incidence is higher in city than in country districts, among negroes than among whites, and that it is heavy among labourers. P.A.C.

51—American Journal of Public Health.

- a. MILLER, J. E., 1941.—“Schistosome dermatitis as a bathing place problem.” 31 (4), 305-309.

52—American Journal of Surgery.

- a. McNALLY, A. & CASE, J. B., 1941.—“Echinococcus cyst of muscle. Report of a case occurring in the left psoas muscle.” 51 (2), 419-422.
- b. WAX, W. V. & COOPER, N. S., 1941.—“*Oxyuris vermicularis* appendicitis. The incidence of *Oxyuris vermicularis* in a series of 1,016 cases of appendicitis.” 52 (1), 89-91.

(52b) Wax & Cooper record the incidence of 8 cases of *Enterobius vermicularis* infestation of the appendix in a series of 1,016 operative cases of appendicitis. Six of the cases showed inflammatory reaction in the appendix, whilst two cases showed worms present without visible pathological findings. M.R.Y.

53—American Journal of Tropical Medicine.

- a. MUELLER, J. F. & COULSTON, F., 1941.—“Experimental human infection with the sparganum larva of *Spirometra mansonoides* (Mueller, 1935).” 21 (3), 399-425.
- b. SAUNDERS, G. M., 1941.—“A comparison of the incidence of filariasis (*Wuchereria bancrofti*) in the islands of St. Thomas and St. Croix.” 21 (3), 481-485.

(53a) Mueller & Coulston had injected by coarse hypodermic needle under the skin of the left arm respectively two and one sterilized scolices (2 mm. long) cut off from spargana of *Spirometra mansonoides* from an experimentally infested monkey. They here give details of their symptoms and the recurrent allergic reactions—mainly urticaria and papular eruptions, with variable degrees of local inflammation, swollen lymph glands, and general malaise. After 2 to 3 months three spargana up to 60 mm. long were recovered by operation: one of these produced in a cat a normal adult tapeworm whose progeny were infective to monkeys. A feature of the experiment was a series of skin scratch tests and intradermal tests with various antigens: slight positives were obtained even with material of *Taenia* spp. Conversely, Culbertson recorded positives in hydatid patients using as antigen (for the intradermal test) material of *S. mansonoides*. B.G.F.

(53b) After examining for filariasis about 200 inhabitants from each of the islands of St. Thomas and St. Croix, Saunders found only one case

in the former and 50 in the latter; yet the islands are adjacent, share the same climate, and both harbour *Culex fatigans*. The main difference is that they are respectively urban and rural as to the populations they support.

B.G.P.

54—American Journal of Veterinary Research.

- a. ALICATA, J. E., 1941.—“Studies on control of the liver fluke of cattle in the Hawaiian Islands.” 2 (3), 152-164.
- b. ANNÉREAU, R. F., 1941.—“A new record of a deer parasite for California.” 2 (3), 199-201.

(54a) Alicata reports on the control of *Fasciola gigantica* in cattle in Hawaii. In addition to measures previously recorded [see Helm. Abs., Vol. IX, No. 265a], he mentions the biological control of the snail vector (i) by *Astacus nigrescens* which eats the snails but (like the mitten crab) has undesirable habits, and (ii) by fireflies, the aquatic larvae of which are predacious: these are being experimentally introduced from Japan and the Philippines. For treatment, hexachlorethane alone has been found to cause colic, but 10 g. C_2Cl_6 + 1.75 g. kamala extract per 70 lb. body weight, in two daily doses, was satisfactory. Each mature fluke contributes, on the average, about 1 egg per g. of faeces, as judged from fluke-counts and triple egg-counts on 10 adult cows.

B.G.P.

(54b) Annereaux records *Onchocerca cervipedis* from near the hock joint in mule deer (*Odocoileus hemionus*) from Nevada county. The description of the original material from Montana and British Columbia (Wehr & Dikmans, 1935) is supplemented by an account of the ventral view of the male tail.

B.G.P.

55—Annaes Paulistas de Medicina e Cirurgia.

- a. TIBIRIÇA, P. Q. T., 1941.—“Granulomatose do apêndice por *T. trichiura*.” 41 (2), 151-152.
- b. MEIRA, J. A., 1941.—“Considerações sobre os aspectos retosigmoidoscópicos e os quadros radiológicos do grosso intestino na esquistosomíase mansoni. (Doença de Manson—Pirajá da Silva).” 41 (4), 317-324, 327-330, 333-334, 337-344; (5), 389-390, 393-394, 397-412, 415-426. [English summary pp. 423-424.]

56—Archiv für Wissenschaftliche und Praktische Tierheilkunde.

- a. MATOFF, K., 1941.—“Experimentelle Trichineninfektion der Trachea und Nasenhöhle.” 76 (5), 363-377.

(56a) Matoff believes he has evidence to show that artificially hatched *Trichinella* larvae may develop to maturity and produce embryos in sites other than the deep tissues of the gut. Such larvae have indeed done so after being injected into the trachea and nasal cavities and the embryos have reached the muscles via the lymphatics. Tracheal infections may fail as a result of immunological reactions or of inflammatory reactions on the part of the host. He considers the oxygen requirements of the adult and notes the great adaptability with regard to host and situation within the host.

P.A.C.

57—Australian Journal of Science.

- a. GORDON, H. McL., 1941.—“Phenothiazine, a remarkable anthelmintic.” 3 (4), 100-101.

(57a) It is estimated that the amount of phenothiazine that would be required to treat sheep infested with *Oesophagostomum columbianum* in northern New South Wales and southern Queensland in a single year approximates 250 to 300 tons, and that the annual consumption would probably exceed 1,500 tons in the sheep raising areas, and for cattle, horses, pigs and poultry in Australia and New Zealand, provided the drug could be marketed at a reasonable price.

R.T.L.

58—Australian and New Zealand Journal of Surgery.

- a. BARNETT, L., 1941.—“Multiple abdominal and pelvic hydatid cysts (peritoneal cysts): a study of 228 cases.” 10 (3), 223-233.
 b. MEADE, J. A. & BARNETT, L., 1941.—“Echinococcosis alveolaris (alveolar hydatid disease), associated with ordinary hydatid cysts of the liver.” 10 (4), 317-327.

59—Berliner und Münchener Tierärztliche Wochenschrift.

- a. SCHAAF, J., 1941.—“Vorkommen und Verbreitung der Trichinose im Generalgouvernement Polen.” Jahrg. 1941 (11), 131-133.
 b. SCHMID, F., 1941.—“Zur Biologie der Haarwürmer (*Capillaria*) des Geflügels.” Jahrg. 1941 (11), 133-134.
 c. SALHOFF, S., 1941.—“Sektionsergebnisse bei Wildvögeln.” Jahrg. 1941 (22), 267-268.
 d. PIENING, C., 1941.—“Neues auf dem Gebiete der Schafkrankheiten. (Sammelreferat.)” Jahrg. 1941 (23), 273-277.

(59a) Schaaf has worked out the incidence of *Trichinella* in Poland. The incidence among pigs varies in different districts from 0.18% to 0.84% with an average of 0.68%. It is, however, at least 14 times as frequent among dogs. Cases in Germans at the close of the Polish campaign had resulted from eating unsuspected pork.

P.A.C.

(59b) Schmid shows that eggs of avian *Capillaria* spp. may still be viable to chickens after lying in the soil for more than six months, and that they are very resistant to extremes of cold, surviving temperatures of -20°C . for short periods. They develop in the chicken in 3 to 4 weeks. Adult worms produce eggs irregularly so that it is impossible to estimate the degree of infection from the numbers of eggs in the faeces. He shows that this irregularity is intrinsic and depends in no way on external conditions.

P.A.C.

(59c) Salhoff describes the condition of some wild duck found in the late winter months which were considerably emaciated. They were carrying a heavy infection of *Fimbriaria plana* which, however, under less severe climatic conditions would have been less likely to affect the well-being of the birds.

P.A.C.

(59d) In the course of his review of recent literature on sheep diseases Piening deals very briefly with (i) *Strongyloides papillosus* infection as a predisposing factor in foot-rot [see Helm. Abs., Vol. III, No. 127b], (ii) filarial dermatitis [see Helm. Abs., Vol. VII, No. 228b], and (iii) the treatment of gastro-intestinal nematodes.

A.E.F.

60—Brasil-Medico.

- a. AMARAL, A. D. F. & LIMA, P. DE, 1941.—“Sobre o encontro de exemplares adultos de *S. mansoni*, na cavidade intestinal, em casos de autopsia.” 55 (13), 237-240. [English summary p. 240.]

61—British Medical Journal.

- a. MACARTHUR, W. P., 1941.—“Cysticercal epilepsy.” [Correspondence.] Year 1941, 1 (4186), p.492.
b. EWING, C. W., 1941.—“Cysticercosis epilepsy.” Year 1941, 2 (4207), 263-265.
c. PEARCE, T. V., 1941.—“Somatic taeniasis and cysticercosis epilepsy.” [Correspondence.] Year 1941, 2 (4209), p. 357.

62—Bulletin. State of California Department of Agriculture.

- a. DUCKWORTH, C. U., 1941.—“Some diseases of garbage fed hogs.” 30 (1), 152-156.

(62a) Duckworth mentions trichinosis as being a disease of garbage-fed pigs in America, and in a popular way gives an account of the course of the disease, the incidence, and the problem of preventing further infection among pigs. P.A.C.

63—Canadian Journal of Research. Section C. Botanical Sciences.

- a. HILDEBRAND, A. A. & WEST, P. M., 1941.—“Strawberry root rot in relation to microbiological changes induced in root rot soil by the incorporation of certain cover crops.” 19 (6), 183-198.

(63a) Hildebrand & West report on experiments in which a soil capable of producing root rot in strawberry plants had had various cover crops, such as soybeans, red clover, timothy, etc., turned into it for 3 consecutive seasons. Strawberry plants grown in the soybean soil remained healthy whereas those in the red clover and timothy soils became diseased. In discussing the microbiological complex obtaining in these soils it is suggested that, though certain fungi are probably responsible for the causation of rot in strawberry roots, the eelworm, *Pratylenchus pratensis*, may be an important contributory factor to disease in the soils receiving red clover and timothy. T.G.

64—Canadian Public Health Journal.

- a. DETWILER, J. D., 1941.—“Parasitic infestations of fish.” 32 (6), 293-300.
b. KUITUNEN-EKBAUM, E., 1941.—“Phenothiazine in the treatment of enterobiasis.” 32 (6), 308-313.

(64a) Detwiler recounts the life-cycles of *Triaenophorus tricuspidatus*, economically important in food fish of the Great Lakes, *Diphyllbothrium latum*, and two parasites of the black bass: *Crassiphiala ambloplites* and *Clinostomum marginatum*, respectively the black and yellow “grubs” of this host. B.G.P.

(64b) Phenothiazine was found effective in curing 76 out of 89 children, and 8 out of 9 adults, by one course of treatment, the post-treatment NIH swabs being completed 17 days after cessation of treatment in the first 40 children and 6 adults, and 12 days after in the remaining 49 children and 3 adults. Adults received from 5 to 10 g. of phenothiazine and children

from 2.5 to 8 g. Those positive after the first treatment were given another course, and of these only one child showed positive swabs; no swabs were taken from two children. No laxative was given during treatment. M.R.Y.

65—Cornell Veterinarian.

- a. FINCHER, M. G. & GIBBONS, W. J., 1941.—“Phenothiazine in emaciated horses.” 31 (2), 220-223.
- b. TETLEY, J. H., 1941.—“The epidemiology of low-plane nematode infection in sheep in Manawatu district, New Zealand.” 31 (3), 243-265.
- c. BRITTON, J. W., SALISBURY, G. W. & BAKER, D. W., 1941.—“Control of equine strongylosis. Part III. - The effect of pasture management on the development of strongylosis in foals.” 31 (3), 289-294.

(65a) Fincher & Gibbons gave doses of 15 to 45 g. phenothiazine to 19 emaciated horses weighing from 200 to 900 lb. Within 36 hours, 8 of them were off feed and showing hard and scanty faeces, marked icterus, pale mucous membranes, abnormal pulse, and some temperature. Two of them died. It is concluded that phenothiazine may be unsatisfactory for anaemic and emaciated horses. B.G.P.

(65b) Tetley describes an epidemiological experiment involving 30 Romney-cross ewes (5 years old and over), their 41 new-born lambs, and 36 yearling lambs, which were maintained on one pasture for the experimental period of 12 months. At bi-monthly intervals, (usually) 6 animals from each age-group were slaughtered and the worms counted, thus yielding data on both seasonal and age incidence of 20 species of nematodes. Discussed by Tetley in detail, the results do not lend themselves to summarization except, broadly, that infestation with *Strongyloides*, *Nematodirus*, *Ostertagia*, *Trichuris* and *Chabertia* occurred in lambs soon after birth, and infestation with *Haemonchus*, *Trichostrongylus* and *Cooperia* was delayed until late summer or winter. *Ostertagia*, *Haemonchus* and *Nematodirus* were able to re-infest yearlings; *Cooperia* was found in all age-groups. B.G.P.

(65c) In previous studies on the control of strongylosis [see Helm. Abs., Vol. VIII, No. 208a; Vol. IX, No. 267a] Britton, Salisbury & Baker attempted control by worming brood mares. In the present study they report considerably better results from rotational grazing on improved pastures, without anthelmintic treatment. These results are ascribed not only to a lower rate of infestation but also to a higher nutritional level due to fertilization of the pastures. It is held uneconomical to worm foals under the age of 9 months. B.G.P.

66—Deutsche Medizinische Wochenschrift.

- *a. HANTSCHMANN, 1941.—“Eine Gruppenerkrankung an Trichinose.” 67, p. 195.

(66a) Hantschmann describes symptoms attributed to trichinosis in three people who ate infected smoked ham. The degree of illness ranged from slight indisposition to serious disease when there was throat and pulmonary disturbance, bronchopneumonia and myocarditis. They were treated with Fouadin. [From an abstract in Z. Fleisch- u. Milchhyg., 51, p. 166.] P.A.C.

* Original not available for checking or abstracting.

67—Folletos de Divulgación Científica. Instituto de Biología. Chapultepec.

- a. SALAS, M., 1941.—“Parasitosis intestinales.” No. 36, 61 pp.

68—Gaceta Medica de Caracas.

- a. PARPACÉN, J. V., 1941.—“La estadística en la clínica de la Schistosomiasis mansoni digestiva.” 48 (2), 191-194; (3), 196-200.

69—Indian Journal of Veterinary Science and Animal Husbandry.

- a. SRIVASTAVA, H. D., 1941.—“New fellodistomids (Trematoda) from Indian fishes. Part III. A new parasite of the genus *Haplocladus* Odhner, 1911, from an Indian marine fish.” 11 (1), 42-44.
- b. SRIVASTAVA, H. D., 1941.—“New hemiurids (Trematoda) from Indian marine food fishes. Part II. Two new parasites of the genus *Sterrhurus* Looss, 1907.” 11 (1), 45-48.
- c. SRIVASTAVA, H. D., 1941.—“New hemiurids (Trematoda) from Indian marine food fishes. Part VIII. The morphology and systematic position of a new parasite—*Indoderogenes purii*, gen. et sp. nov. (sub-family Dero-genetinae).” 11 (1), 49-51.
- d. SRIVASTAVA, H. D., 1941.—“New allocreadids (Trematoda) from Indian marine food fishes. Part V. A new parasite of the genus *Lepocreadioides* Yamaguti, 1936.” 11 (1), 52-54.

(69a) *Haplocladus orientalis* n. sp. is described from the intestine of *Synaptura orientalis* from the Bay of Bengal. It is nearest to the genotype, from which it differs in the more anterior acetabulum and the vitellaria being more extensive posteriorly, as well as in other features. [It appears unique in the family in the possession of minute cuticular spines.] N.G.S.

(69b) *Sterrhurus monolecithus* n.sp. is described from the stomach of *Clupea ilisha*, and *S. karachii* n.sp. from the stomach of *C. longiceps*. Both species differ from the others of the genus in having a rudimentary tail, and the former is unique in having a single compact vitelline mass; it is the commonest Indian fish trematode and in winter the migratory host shows an infection rate of 90%, though the intensity is not heavy. The latter species from the marine fish is rare and differs from the former in having two elongated vitellaria placed symmetrically, as well as in other features. [The transverse measurement of eggs of the two species should be 0.008 mm., not 0.08 mm. as stated in the text.] N.G.S.

(69c) Srivastava describes *Indoderogenes purii* n.g., n.sp., from the stomach of *Chirocentrus dorab* from Chilka Lake. The new genus is distinct among the Dero-genetinae in the markedly anterior position of the acetabulum, the short pars prostatica and in the ovarian complex and vitellaria being completely post-caecal. N.G.S.

(69d) *Lepocreadioides indicum* n.sp. is described from the intestine of *Platycephalus insidiator* from Puri and Karachi. Its general facies resembles that of the other two members of the genus (recorded only from Japanese fishes) yet it differs from them in several important details. N.G.S.

70—Indian Medical Gazette.

- a. RAY, P. N., 1941.—“Surgical complications of filariasis.” 76 (4), 194-199.

71—Iowa State College Journal of Science.

- a. HAGER, A., 1941.—“Effects of dietary modifications of host rats on the tapeworm *Hymenolepis diminuta*.” 15 (2), 127-153.

(71a) Hager infected rats with *Hymenolepis diminuta* using *Tribolium confusum* as vector. The adult infection was characterized by a high initial egg output, followed by a constant but lower rate. The egg output could be influenced by changes in the diet. Partial starvation did not lower the rate but absence of the vitamin G complex did. Raw milk, wheat middlings and, to some extent, soya bean oil meal supply the factor. She was unable to establish a direct correlation between the number of adults and the number of eggs eliminated, but there is evidence that in heavy infections the individual egg output is decreased. Individual worms are smaller and in very heavy infections may not even mature. P.A.C.

72—Japanese Journal of Zoology.

- a. YAMAGUTI, S., 1941.—“Studies on the helminth fauna of Japan. Part 32. Trematodes of birds, V.” 9 (3), 321-341.
 b. YAMAGUTI, S., 1941.—“Studies on the helminth fauna of Japan. Part 33. Nematodes of fishes, II.” 9 (3), 343-396.
 c. YAMAGUTI, S., 1941.—“Studies on the helminth fauna of Japan. Part 34. Amphibian nematodes, II.” 9 (3), 397-408.
 d. YAMAGUTI, S., 1941.—“Studies on the helminth fauna of Japan. Part 35. Mammalian nematodes, II.” 9 (3), 409-439.
 e. YAMAGUTI, S., 1941.—“Studies on the helminth fauna of Japan. Part 36. Avian nematodes, II.” 9 (3), 441-480.

(72a) Yamaguti adopts his usual methods in describing and figuring Japanese helminths in the present series. Among the 14 trematodes from birds in this paper the new forms are: DICROCOELIIDAE: *Lyperosomum emberizae* n.sp., *L. eophoniae* n.sp., *L. halcyonis* n.sp.; OPISTHORCHIIDAE: *Euamphimerus nipponicus* n.g., n.sp.; HETEROPHYIDAE: *Galactosomum puffini* n.sp.; SCHISTOSOMATIDAE: *Pseudobilharziella corvi* n.sp., *Ornithobilharzia emberizae* n.sp. *Tamerlania japonica* is re-examined and the specimens identified with it from *Emberiza variabilis* by Yamaguti in 1935 are re-named *T. zarudnyi* Skrj. N.G.S.

(72b) Yamaguti describes 50 nematodes from Japanese fishes, which include the following new forms: TRICHURIDAE: *Capillaria mogurndae* n.sp., *C. ugui* n.sp.; HETEROCHEILIDAE: *Pseudanisakis rajae* n.g., n.sp., *Paranisakis halieutacae* n.sp., *P. lophii hoplobrotulae* n. subsp., *Paranisakopsis coelorrhynchii* n.g., n.sp., *Raphidascaroides nipponensis* n.g., n.sp., *R. nipponensis lophii* n. subsp., *Porrocaecum cephaloscyllii* n.sp., *Contracaecum epinepheli* n.sp., *C. seriolae* n.sp., *C. paralichthydis* n.sp., *C. scomberomori* n.sp., *C. coiliae* n.sp., *C. baylisi* n.sp., *C. ilishae* n.sp., *C. zenopsis* n.sp., *C. saba* n.sp.; THELAZIIDAE: *Rhabdochona tridentigeris* n.sp.; HEDRURIDAE: *Hedruris neobythitis* n.sp.; CAMALLANIDAE: *Procamallanus lonis* n.sp.; CUCULLANIDAE: *Cucullanus hinezi* n.sp., *C. cyprini* n.sp., *C. girellae* n.sp., *C. amadai* n.sp., *Cucullanellus branchiostegi* n.sp., *Neocucullanellus apharei* n.g., n.sp.; PHILOMETRIDAE: *Philometra sciaenae* n.sp., *P. managaturwo* n.sp., *P. inimici* n.sp., *P. sebastsci* n.sp., *P. sebastodis* n.sp. Larval forms, from numerous hosts, are described belonging to the genera *Eustrongylides*, *Anisakis*, *Raphidascaris*, *Raphidascaroides* and *Contracaecum*. Unnamed species are described from the genera *Contracaecum* and *Cucullanus*. N.G.S.

(72c) Yamaguti describes 12 nematodes from Japanese amphibia, which include the following new forms: RHABDIASIDAE: *Rhabdias poly-pedatis* n.sp., *R. rhacophori* n.sp.; OXYURIDAE: *Pharyngodon polypedatis* n. sp.; KATHLANIIDAE: *Megalobatrachonema nipponicum* n.g., n.sp.; FILARIIDAE: *Icosiella kobayashii* n.sp. It is thought that *Ostealdocruzia bialata* (Molin) may be synonymous with *O. filiformis* (Goeze). N.G.S.

(72d) Yamaguti describes 20 nematodes from Japanese mammals; the new forms among them are: TRICHURIDAE: *Capillaria multicellularis* n.sp., *C. pipistrelli* n.sp.; TRICHOSTRONGYLIDAE: *Molinostrongylus rhinolophi* n.sp., *Longistriata musasabi* n.sp., *Moguranema nipponicum* n.g., n.sp., *Citellinema nipponicum* n.sp.; ASCARIDAE: *Toxocara tanuki* n.sp.; GNATHOSTOMATIDAE: *Gnathostoma nipponicum* n.sp.; FILARIIDAE: *Dirofilaria ursi* n.sp., *Pseudolitosoma musasabi* n.g., n.sp., *Cardionema ten* n.g., n.sp. A new subfamily, Cardionematinae, is created for the last named genus. An unnamed species is described from the genus *Anisakis*. N.G.S.

(72e) Yamaguti describes 37 nematodes from Japanese birds, of which the following forms are new: TRICHURIDAE: *Capillaria emberizae* n.sp., *C. calliopis* n.sp., *C. podicipitis* n.sp., *C. cincli* n.sp.; HETERAKIDAE: *Heterakis yamadori* n.sp.; SUBULURIDAE: *Subulura coturnicis* n.sp.; HETEROCHEILIDAE: *Porrocaecum phalacrocoracis* n.sp., *Contraecacum himeu* n.sp., *C. umiu* n.sp.; ACUARIIDAE: *Synhimantus nipponensis* n.sp., *Seuratia puffini* n.sp.; FILARIIDAE: *Hamatospiculum accipitris* n.sp., *Diplotrichaena nipponensis* n.sp. Unnamed species are described from the genera *Capillaria*, *Contraecacum* and *Hamatospiculum*. N.G.S.

73—Journal of the American Veterinary Medical Association.

- a. SCHWARTZ, B., 1941.—"Meat-inspection aspects of trichinosis." 98 (771), 458-461.
- b. HAY, J. R., 1941.—"The treatment of sheep parasites with repeated doses of phenothiazine." 98 (771), 462-465.
- c. WHITLOCK, J. H., 1941.—"A practical dilution-egg-count procedure." 98 (771), 466-469.
- d. BROWN, H. W. & SHELDON, A. J., 1941.—"Treatment of the canine heartworm (*Dirofilaria immitis*) with fuadin and sulfanilamide." 98 (771), 477-481.

(73a) Schwartz points out that microscopic examination of pork for *Trichinella* as practised in various European countries is not perfect and infected carcasses may pass through. In the United States such inspection is only made of carcasses for export to other states or foreign countries. Only a few states and municipalities have a rigid system of meat inspection. The cost is great, and this in conjunction with the false sense of security given thereby to eaters of raw pork suggest that the value of examination is limited. More emphasis therefore in the U.S. is laid on the federal inspection of the manufacture of pork products and the processes recommended by the State are shown to be effective in rendering any parasites ineffective. Further the State publishes constant propaganda as regards the dangers that may follow the eating of undercooked or raw pork. P.A.C.

(73b) Hay treated 4 sheep with phenothiazine at fortnightly intervals [said to be 12, between 10/5 and 17/9/40!], and 4 with single doses, leaving

4 controls. On the basis of post-mortem worm counts, varying from 12 to 149 adult worms, and of weights of sheep before and after treatment, he found that fortnightly doses of 25 g. gave the best results.

B.G.P.

(73c) J. H. Whitlock describes a modification of the egg-counting technique devised by Gordon and H. V. Whitlock. The essential differences are: the use of 10 g. faeces instead of 2 g.; the use of a 1 c.c. graduated tuberculin syringe, both for mixing the faecal emulsion with salt or sugar solution, and for measuring out 0.15 c.c. samples; and the avoidance of expensive apparatus (apart from the microscope).

B.G.P.

(73d) The uncertain action of Fouadin alone against *Dirofilaria* has led Brown & Sheldon to test the additional use of sulphanilamide, as a result of which they recommend a 10-day course of daily intramuscular injections of 1 to 2 c.c. Fouadin and twice-daily oral administration of 22 to 45 grains sulphanilamide.

B.G.P.

74—Journal of Clinical Investigation.

- a. CULBERTSON, J. T. & ROSE, H. M., 1941.—“Further observations on skin reactions to antigens from heterologous cestodes in echinococcus disease.” 20 (3), 249-254.

(74a) Culbertson & Rose report that antigens can be prepared from a number of cestodes and give positive skin tests in patients with hydatid and in people passively sensitized with serum from such patients. Suitable cestodes are *Taenia serrata*, *T. saginata*, *T. crassicolis*, *Hymenolepis fraterna*, *Moniezia expansa*, *Railletina cesticillus* and both adult and larva of *Diphyllobothrium mansonoides*.

P.A.C.

75—Journal of Helminthology.

- a. GOODEY, T., 1941.—“*Anguillulina dipsaci* from ‘tulip root’ oats injuring seedlings of a seeds mixture.” 19 (1/2), 1-8.
- b. PETERS, B. G., LEIPER, J. W. G. & CLAPHAM, P. A., 1941.—“A phenothiazine experiment statistically treated.” 19 (1/2), 9-14.
- c. LEIPER, J. W. G., PETERS, B. G., & CLAPHAM, P. A., 1941.—“A controlled experiment with phenothiazine in sheep.” 19 (1/2), 25-34.
- d. ROGERS, W. P., 1941.—“Digestion in parasitic nematodes. II. The digestion of fats.” 19 (1/2), 35-46.
- e. ROGERS, W. P., 1941.—“Digestion in parasitic nematodes. III. The digestion of proteins.” 19 (1/2), 47-58.

(75a) Goodey reports injury to young seedlings of various clovers, rape and grasses of a seeds mixture by *Anguillulina dipsaci* from “tulip root” oat material in pot experiments. The growing points of the clovers and rape were killed and the seedlings made no further growth; injury to the grasses was less severe. In a discussion of the practical implication of these findings stress is laid on the desirability of ploughing under the stubble of oats which have suffered from “tulip root” before sowing a seeds mixture.

T.G.

(75b) In an experiment to test the anthelmintic effect of phenothiazine powder, with and without wetting agents, against nematodes in sheep, Peters, J. Leiper & Clapham found that, whilst dilution egg-counts were reduced to an equal extent by dosage rates of 0.3 and 0.15 gm. per kg. body

weight, there was no corresponding effect on post-mortem worm-counts. They therefore conclude that such doses were without practical significance. They recommend and describe the statistical method of "Analysis of Covariance" as applicable to egg-counts and host-weights in anthelmintic experiments of this kind. B.G.P.

(75c) In an experiment to compare tablets with powdered phenothiazine against sheep nematodes, J. Leiper, Peters & Clapham found that as judged by egg-counts both were effective at a dosage of 1 gm. per kg. body weight and the powder was superior to the tablets. As judged by host-weights, the tablets led to a slight set-back in one month. At post-mortem the treated sheep contained more worms than the untreated, so even this rate of dosing is not considered of practical importance. B.G.P.

(75d) Rogers has extracted enzymes, which hydrolyse ethyl butyrate and olive oil, from the intestines of *Strongylus edentatus* and *Ascaris lumbricoides* (pig strain). These enzymes were most active at pH 8. *Ascaris* enzymes were activated by sodium bicarbonate and sodium glycocholate. Sodium taurocholate retarded the action of both parasites' enzymes. Esterase action, relative to lipase action, was $2\frac{1}{2}$ times greater in *S. edentatus* than in *A. lumbricoides*. Per gram of worm, *Strongylus* digested 9.4 to 23.1 times as much ethyl butyrate and 1.3 to 12.0 times as much olive oil as *Ascaris*. It is concluded that the lipolytic enzymes of *S. edentatus* differ from those of its host and *A. lumbricoides*. W.P.R.

(75e) Rogers has extracted weak tryptic-like enzymes from the intestines of *Strongylus edentatus* and *A. lumbricoides* (pig strain). These enzymes resembled pancreatic trypsin in that the relative production of "free acid" and "formaldehyde acid" was similar but differed in having greatest action on gelatin, blood-albumin and casein at pH 6.2. Per gram of worm *Strongylus* digested 4.9 to 8.3 times as much gelatin, 12.5 to 40.9 times as much casein and 2.5 to 5.2 times as much blood-albumin as *Ascaris*. Spectroscopic examination of the action of the enzymes on oxyhaemoglobin showed first the formation of reduced haemoglobin and then the formation of haematin. These changes took place most rapidly at about pH 6. W.P.R.

76—Journal of Parasitology.

- a. LARSH, jr., J. E., 1941.—"*Corallobothrium parvum* n.sp., a cestode from the common bullhead, *Ameiurus nebulosus* Le Sueur." 27 (3), 221-227.
- b. HOBMAIER, M., 1941.—"Description and extramammalian life of *Crenosoma mephitis* n.sp. (Nematoda) in skunks." 27 (3), 229-232.
- c. HOBMAIER, M., 1941.—"Extramammalian phase of *Physaloptera maxillaris* Molin, 1860 (Nematoda)." 27 (3), 233-235.
- d. HOBMAIER, M., 1941.—"Extramammalian phase of *Skrjabinylus chitwoodorum* (Nematoda)." 27 (3), 237-239.
- e. CHANDLER, A. C., 1941.—"The specific status of *Moniliformis* (Acanthocephala) of Texas rats, and a review of the species of this genus in the western hemisphere." 27 (3), 241-244.
- f. VAN CLEAVE, H. J. & VAUGHN, C. M., 1941.—"The trematode genus *Otodistomum* in North America." 27 (3), 253-257.
- g. KATES, K. C., 1941.—"Observations on the viability of eggs of lungworms of swine." 27 (3), 265-272.
- h. PRATT, I. & BARTON, G. D., 1941.—"The effects of four species of larval trematodes upon the liver and ovotestis of the snail, *Stagnicola emarginata angulata* (Sowerby)." 27 (4), 283-288.

- i. STUNKARD, H. W., 1941.—“Studies on the life history of the anoplocephaline cestodes of hares and rabbits.” 27 (4), 299-325.
- j. OLIVIER, L. & CORT, W. W., 1941.—“*Cercaria douglasi* Cort, 1917 and its relation to the cercaria of *Cotylurus flabelliformis* (Faust, 1917).” 27 (4), 343-346.
- k. BEAVER, P. C., 1941.—“The life history of *Echinochasmus donaldsoni* n. sp., a trematode (Echinostomidae) from the pied-billed grebe.” 27 (4), 347-355.
- l. LANDSBERG, J. W. & LISCHER, C. F., 1941.—“Anthelmintic studies on the mono ethers of the dihydroxy benzenes.” 27 (4), 357-361.
- m. ROTH, H., 1941.—“Occurrence of *Trichostrongylus colubriformis* in the guinea pig.” 27 (4), p. 363.
- n. ROTHSCHILD, M., 1941.—“Note on life histories of the genus *Paramonostomum* Lühe, 1909 (Trematoda: Notocotylidae) with special reference to the excretory vesicle.” 27 (4), 363-365.
- o. MOORMAN, A. E., 1941.—“*Balantidium coli* and pinworm in a chimpanzee.” 27 (4), p. 366.

(76a) *Corallobothrium parvum* n.sp. from the common bullhead fish, *Ameiurus nebulosus*, develops into procercoids in *Cyclops prasinus* in 8 days. When the infected cyclops are eaten by the fish *Glaridichthys talcatus*, plerocercoids develop in the intestinal mucosa and body cavity within 3 days.

R.T.L.

(76b) *Crenosoma mephitidis* n.sp. found in the bronchi of the skunk, *Spilogale gracilis phenax*, in California develops in the foot and internal organ of a great variety of land molluscs. The Pacific garter snake, *Thamnophis sirtalis*, serves as a natural auxiliary host, but frogs, toads and lizards were artificially infected. The control of *Crenosoma* has to take into account these additional hosts.

R.T.L.

(76c) The development of *Physaloptera maxillaris* is similar to that of *P. turgida* and has been studied in *Blatta germanica*. Infective larvae are obtained after 4 to 6 weeks and are readily distinguished from similar stages of other nematodes in cockroaches by the characteristic triangular outline of the head parts. The two lips with teeth, papillae, and amphids are already discernible.

R.T.L.

(76d) *Skrjabinigylus chitwoodorum* develops experimentally in all slugs and land snails obtainable. Natural infection by the third stage larvae was also observed in the Pacific garter snake which feeds mainly on slugs. Frogs could be artificially infected.

R.T.L.

(76e) The genus *Moniliformis* is represented in the New World by *M. clarki*, *M. dubius* and *M. convolutus*. The young forms described by Sandground from toads and lizards in Central America probably belong to a new species.

R.T.L.

(76f) Van Cleave & Vaughn maintain that the American forms of *Otodistomum* belong to one highly variable species to which the name *O. cestoides* (van Beneden) should be applied.

R.T.L.

(76g) Kates suggests that soil contaminated with faeces containing the eggs of the lungworms of pigs should be allowed to lie fallow for about a month before ploughing as they are destroyed in about 25 days when so exposed. When buried in the soil they survive for several weeks but most succumb in about 290 days.

R.T.L.

(76h) Pratt & Barton, comparing the liver and ovotestis of an uninfected snail with those infected with cercariae, conclude that heavy infections tend to reduce the number of liver tubules and to limit these to the periphery. The ovotestis was unaffected in the snail with *Cercaria yogena*, but in those with *C. laruei* and *Diplostomum flexicaudum* no developing eggs could be found and in that with *Plagiorchis muris* the whole gland was lacking. Cercariae were never found in the lumina of the glands nor in the intestine. N.G.S.

(76i) Stunkard gives a more complete account of the life-cycle of *Cittotaenia ctenoides* [see Helm. Abs., Vol. VIII, No. 178e], and observations on the cycles of *C. denticulata* and *C. pectinato*, based on work done at Hamburg. Cysticercoids occurring naturally in the mite *Scutovertex minutus*, developed in rabbits to *C. ctenoides*. Eggs of the latter fed to 11 species of oribatid mites developed to cysticercoids in 7, and had started development in the others, when they died. Similarly, eggs of *C. denticulata* developed partially in 6 mite species, but fully only in *S. minutus*. The developmental stages in mites of *C. ctenoides* and *C. denticulata* are described and figured from experimental infestations, and the stages in the final hosts of these two species and of *C. pectinata* from natural infestations; material from experimentally infested mites failed to develop in final hosts owing to immaturity. B.G.P.

(76j) Olivier & Cort give a redescription of *Cercaria douglasi* from physid snails (first and second intermediate hosts) and distinguish it from the cercaria of *Cotylurus flabelliformis* (= *C. douglasi* Cort & Brooks) which develops only in lymnaeid snails. N.G.S.

(76k) Beaver gives an account of the life-history of a new gymnocephalous cercaria from *Ammicola* spp. from Douglas Lake, which develops into a metacercaria on the gills of certain small fresh-water fishes, and the adults (found to occur naturally in the duodenum of *Podilymbus podiceps*) were reared in pigeons. *Echinochasmus reniovarus* Lal is transferred to the genus *Episthmium* Lühe on account of the vitellaria being anterior to the acetabulum. N.G.S.

(76l) Landsberg & Lischer, using the Lamson and Brown *in vitro* test, have determined the toxicity of mono ethers of certain dihydroxy benzenes (14 compounds) and hexylresorcinol to *Ascaris lumbricoides* of swine. Resorcinol mono-n hexyl ether and hexylresorcinol were the most lethal. The toxicity of these two compounds to rats, determined by the usual pharmacological methods, was similar, the L.D. 50 for 24 hours being about 1.75 g. per kg. of rat. W.P.R.

(76m) Roth records a single male *Trichostrongylus colubriformis* from the posterior part of the small intestine of one of a number of young trichinized guinea-pigs. It is likely that contaminated grass had been fed to the guinea-pig. B.G.P.

(76n) Six species of encysted notocotyloid cercariae from *Peringia ulvae* were fed to ducks. Two species of the Yenchingensis subgroup developed in the intestinal caeca into adults of the genus *Paramonostomum*. The unpaired diverticula of the excretory vesicle of the cercaria can be identified in the adult worm, and will probably prove of value for purposes of classification. M.R.

77—Journal of Tropical Medicine and Hygiene.

- a. ROBERTSON, R. C., 1941.—“Schistosomiasis in the Tali-fu region of Yunnan Province.” 44 (6), 35-38.
- b. SWARTZWELDER, J. C., 1941.—“*Toxocara cati* (cat ascarid) infection in man. Report of an additional case.” 44 (10), 61-62.

(77a) *Schistosoma japonicum* is endemic in the country villages on the plain in West Yunnan which lies near the lake in the Tali-fu and Fenghi district. Infected *Katayama nosophora* were found in the irrigation ditches.

R.T.L.

78—Lancet.

- a. MANSON-BAHR, P., 1941.—“The prevalent diseases of Libya.” Year 1941, 1 (6130), 253-255.
- b. MANSON-BAHR, P., 1941.—“The prevalent diseases of Italian East Africa.” Year 1941, 1 (6141), 609-612.
- c. BEESON, P. B., 1941.—“Trichiniasis: clinical manifestations and diagnosis.” Year 1941, 2 (6151), 67-69.
- d. VIDA, B. L. DELLA & DYKE, S. C., 1941.—“Blood-picture in trichiniasis.” Year 1941, 2 (6151), 69-71.
- e. ORME, W. B., 1941.—“Enterobius and excreta.” [Correspondence.] Year 1941, 2 (6151), p. 87.

(78c) Beeson summarizes the somewhat varied symptomatology and the clinical diagnosis of trichinellosis. Common symptoms are orbital oedema, sub-ungual haemorrhage, cardiovascular hypotension, cough and chest pains. Heavy infestations often yield signs of myocarditis and/or encephalitis. An eosinophilia usually persisting for at least 3 months is useful in diagnosis. During the first 3 or 4 weeks embryos can be centrifuged from 5 c.c. of laked blood, and after the 3rd week larvae can be seen microscopically in excised deltoid or gastrocnemius muscle. The intra-dermal test may give responses which are either delayed (early) or immediate (late infections); the latter can often be elicited many months after infestation.

B.G.P.

(78d) Vida and Dyke have studied the blood changes in 100 patients infected with *Trichinella spiralis* (in 4 cases diagnosis was made by biopsy, in the remainder it rested upon the blood picture and clinical symptoms). Immediately after the onset of symptoms (times were taken from the period when swelling of the eyelids was noted) a leucocytosis appeared. This leucocytosis persisted for 3 weeks, returning to normal in 6 weeks and again reaching a maximum in 11 weeks. The eosinophils diminished within the first 3 days, thereafter eosinophilia coincided with the general leucocytosis. The neutrophils increased as the eosinophils decreased and diminished when the general leucocytosis occurred. Lymphocytes increased in numbers from the 5th week till the 12th week after which there was a decline to the normal figure. Monocytes increased with the first fall in eosinophilia. Cell morphology, as a rule, was fairly normal, though during the early stages of infestation many neutrophils showed, together with typical neutrophilic granules, a number of eosinophilic granules.

W.P.R.

79—Medical Annals of the District of Columbia.

- a. CRAM, E. B., 1941.—“Studies on oxyuriasis. IX. The familial nature of pinworm infestation.” 10 (2), 39-48, 77.

(79a) Cram reports the incidence of pinworm infestation in 42% of 2,900 white persons and in 13% of 1,100 negroes in Washington, D.C. In 286 white families 72% of the children and 36% of the adults were infested and in 34 negro families 51% of the children and only 7% of the adults. An average of 3.6 swabs per person was taken. Pinworm eggs were present on approximately 50% of the swabs from positive persons, which emphasizes the necessity of multiple swab examinations. M.R.Y.

80—Medical Parasitology and Parasitic Diseases.

- a. KASIMOV, G. B., 1941.—[The first record of *Ostertagia* in man.] 10 (1), 121-123. [In Russian.]
- b. ANDRIS, V. G., 1941.—[The control of human ascariasis in the fruit-producing regions of the Samur-Divich canal.] 10 (1), 123-126. [In Russian.]

(80a) Kasimov reports that trichostrongylidosis in man is not uncommon in Azerbaidzhan, especially amongst children. In addition to 13 cases diagnosed from ova, *Trichostrongylus columbriformis* was found in 1 of 30 cadavers. After treatment of the 13 cases with thymol and carbon tetrachloride, *T. axei* was found in one case, and in another *T. axei* along with 2 males of *Ostertagia circumcincta*—said to be the first human case. B.G.P.

81—Medizinische Klinik.

- *a. WENDT, H. & OEHR, T., 1941.—“Bekämpfung der menschlichen Infektion mit *Echinococcus alveolaris*.” 37, p. 401.

82—Nederlandsch-Indische Bladen voor Diergeneeskunde en Dierenteelt.

- a. KRANEVELD, F. C., 1941.—“Infectie met *Fasciola gigantica* bij een cavia.” 53 (1), p. 53.

(82a) Kraneveld records two specimens of *Fasciola gigantica* each from a subcutaneous cyst in the body wall of a marmot necropsied at the Veterinary Institute at Buitenzorg. There were no signs of perforation and all organs were normal. B.G.P.

83—Norsk Magasin for Laegevidenskaben.

- a. KOBRO, M. & OWREN, P., 1941.—“Trikinoseepidemien på Nedre Romerike (Akershus).” Årgang 102, published in Nordisk Medicin, 9 (6), 447-451. [German summary p. 451.]

(83a) Seven cases of trichinosis occurred at Strømmen, near Oslo, in 1940. None had been recorded since 1882. The infection was traced to insufficiently cooked Norwegian pork. One of the cases showed typical symptoms. R.T.L.

84—North American Veterinarian.

- a. SHAW, J. N., 1941.—“Use of phenothiazine in Oregon sheep.” 22 (5), 280-283.
- b. WHITLOCK, J. H., 1941.—“Toxicity of phenothiazine.” 22 (6), 351-352.

(84a) On the basis of some 72 Oregon sheep heavily infested with common nematodes and treated with 22 to 87 g. phenothiazine, Shaw finds

* Original not available for checking or abstracting.

that the drug has not proved efficient. From one lamb given 85 g. in three doses, some 4,000 *Ostertagia* and 2,000 *Trichostrongylus* were estimated. Ram lambs from a treated flock of 50 continued to die, and from one 9,000 *Ostertagia* and 25,000 *Trichostrongylus* were estimated. B.G.P.

(84b) Discussing recent contradictory reports on the toxicity of phenothiazine, in the light of fundamental toxicological notions, Whitlock shows how unsatisfactory is the determination of the M.L.D. He regrets the widespread publicity given to phenothiazine and its extending uneconomic use: "The actual truth . . . is that we don't know enough about this popularized drug". B.G.P.

85—Parasitology.

- a. DAWES, B., 1941.—"On *Multicotyle purvisi* n.g., n.sp., an aspidogastroid trematode from the river turtle, *Siebenrockiella crassicolis*, in Malaya." 33 (3), 300-305.
- b. ROTHSCCHILD, M. & SPROSTON, N. G., 1941.—"The metacercaria of *Cercaria doricha* Roths. 1934, or a closely related species." 33 (3), 359-362.

(85a) Dawes describes a new aspidogastroid from the intestine of a turtle. *Multicotyle purvisi* n.g., n.sp. differs from all known forms in the exceptionally numerous, slit-like suckerlets in 4 rows on the ventral disk. The mouth lacks special structures and there are two testes. No egg capsules were found. A key is given for all the known genera of the Aspidogastriidae. N.G.S.

(85b) A metacercaria from the peritoneum of *Gadus luscus* from the Rame Muds, Plymouth, is described. The excretory vesicle shows that it pertains to the Rhodometopa group of cercariae found in *Turritella communis* from the same area. Similar metacercariae were much less common in *G. merlangus* from inshore waters. Suggestions are made as to the final host of the unknown adult. M.R.

86—Peking Natural History Bulletin.

- a. LI, S. Y., 1941.—"On two new species of nematodes from China." 15 (3), 195-199.
- b. HSÜ, H. F. & LI, S. Y., 1941.—"Helminths of dogs in Peiping." 15 (3), 201-213.
- c. HU, S. M. K., 1941.—"Studies on the susceptibility of Shanghai mosquitoes to experimental infection with *Microfilaria malayi* Brug. IV. *Culex vorax* Edwards." 15 (3), 215-216.
- d. WU, K. & CHEN, C. Z., 1941.—"A preliminary report on the animal helminths from Shanghai abattoirs." 15 (3), 217-223.

(86a) *Brevistriata sinensis* n.sp. from the squirrel, *Callosciurus erythraeus catoneoventralis*, is distinguished from *B. skrjabini* by the length of the spicules and arrangement of the bursal rays. *Camallanus zacconis* n.sp. is closely related to *C. cotti*. It occurs in the fish *Zacco temmincti*. Both new species comes from Szechuan. R.T.L.

(86b) Post mortems of 104 adult pariah dogs in Peiping gave 17 species of helminths, viz., 7 Trematoda, 4 Cestoda and 7 Nematoda. *Heterophyopsis expectans major* is recorded from the dog for the first time. New records for China are *Pygidiopsis summa* and *Heterophyes nocens*. The adults of *Echino-*

coccus granulosis are reported for the seventh time in China. The species, incidence, intensity of infection, and maximal numbers are tabulated. The various species are also listed according to frequency of occurrence. R.T.L.

(86c) *Culex vorax* were only occasionally and slightly infected when fed on a heavily infected case of *Microfilaria malayi*, whereas *Anopheles hyrcanus* var. *sinensis* fed at the same time were all infected with considerable numbers of larvae. R.T.L.

(86d) A preliminary list is given of intestinal helminths of oxen, buffaloes, sheep, goats and pigs slaughtered at Shanghai. *Schistosoma japonicum* occurred in all these hosts with the exception of the pigs. Fasciolopsis, *Cysticercus cellulosae* and trichinosis were absent. Amongst the forms noted in China for the first time were *Simonsia paradoxa* and *Onchocerca armillata*. R.T.L.

87—Phytopathology.

- a. LINFORD, M. B., 1941.—“Parasitism of the root-knot nematode in leaves and stems.” 31 (7), 634-648.

(87a) Linford describes the infection by *Heterodera marioni* of leaves and stems of *Emilia sonchifolia* DC., *Portulaca oleracea* L., *Pisum sativum* L., pineapple, tomato and cowpea (*Vigna sinensis* Endl.) following the application to young buds and leaves of larvae in water or in a medium of fine sand or soil. Galls developed freely on the leaves, stems and petioles of tomato, cowpea and *Emilia*, to a slight extent in *Portulaca* and pineapple, and occasional infection with no galls occurred in pea. Infection was also obtained through wounds in the leaves of tomato and cowpea and in the stems of cuttings of *Coleus*, *Begonia* and hybrid hibiscus. The infection in cowpea is studied in detail. It is suggested that the sensitivity of *H. marioni* larvae to desiccation and to irradiation, and possibly their relative shortness, compared with nematodes which normally parasitize the aerial parts of plants, may account for the fact that infections of stems and leaves are seldom seen. M.T.F.

88—Proceedings of the Indian Academy of Sciences. Section B.

- a. BASIR, M. A., 1941.—“Two new nematodes from an aquatic beetle.” 13 (3), 163-167.

(88a) Basir gives brief illustrated technical descriptions of two new oxyurid nematodes, females only of which were obtained from unidentified aquatic beetles inhabiting a Kashmir hill stream. They are *Galebiella galebiella* n.g., n.sp., and *G. islamabadi* n.sp. T.G.

89—Proceedings of the Royal Society of Medicine.

- a. BEESON, P. B., 1941.—“Factors influencing the prevalence of trichinosis in man.” 34 (9), 585-594.

(89a) Beeson discussed the clinical diagnosis of human trichinelliasis, the importance of pigs in its epidemiology, the effects of cooking on the parasite, and some epidemiological features of the recent British outbreaks.

In the discussion R. T. Leiper stated that home-bred pigs were responsible for these outbreaks and that the incidence of the parasite in rats in

this country varied up to as much as 25%.

Rogers reported that experimentally infested rats on a standard diet showed a fall in digested protein during the 2nd week, an irregular fall in the nitrogen balance, an increase in the urinary creatinine during the 3rd week, an irregular increase in urinary albumin, and a sudden increase in ammonia nitrogen in the 2nd week.

Clapham said that species of host affected the rate of maturation of the female parasites: free larvae of the next generation appeared on the 7th day after infection in mice, the 10th day in guinea-pigs.

J. W. G. Leiper reported that in experimentally infested pigs eosinophilia was maximal at about 30% on the 17th to 19th days after infestation, disappeared by the 29th day, but gave a secondary peak (10%) during the following week, after which re-infestation caused no further eosinophilia—thus suggesting an acquired resistance. The clinical picture was slight.

Young reported that routine examinations of over 4,000 pig diaphragms were negative. On the other hand, of 47 human diaphragms (routine hospital post-mortems), 6 were positive: 5 in 30 at Wolverhampton and 1 in 5 at Birmingham. None of these cases was diagnosed during life.

Jolly (M.O.H., Wolverhampton), reporting on the epidemiology of the local outbreak, showed that incidence was higher in women, who also more frequently admitted the habit of eating raw sausage-meat. 60% of the 124 fully-reported cases were traced to 3 firms of sausage manufacturers; if with each firm only one infested pig was involved the incubation period for the disease varied from 8 to 50 days; late incubation might be due to a previous subclinical attack. B.G.P.

90—Proceedings of the Society for Experimental Biology and Medicine.

- a. BEAHM, E. H. & JORGENSEN, M. N., 1941.—“Some effects of experimental trichinosis in the dog.” 47 (2), 294-299.
- b. FAUST, E. C. & THOMEN, L. F., 1941.—“Parasitocidal properties of the proteolytic enzyme ficin.” 47 (2), 485-487.

(90a) Beahm & Jorgensen have studied the changes in the blood in dogs suffering from experimental trichinosis. There was no significant increase in cell volume, total erythrocyte count or haemoglobin value. The eosinophilia reached a maximum in 10 to 15 days after infection. Hypercalcemia only occurred when the infection was a massive one. R.T.L.

(90b) Faust & Thomen have compared the parasitocidal properties of unpreserved, refrigerated and chemically preserved latex of *Ficus* spp., the semi-refined crystoid and the amorphous ficin. Their experiments on whipworms in dogs show that the unpreserved refrigerated crude latex was consistently the most effective, the preserved latex was somewhat less potent. A 10% solution of the freshly opened crystoid rapidly diminished in potency on exposure to air and the relatively stable ficin was only half as efficient as the fresh crystoid. These preparations worked best when the large intestine was previously free from faeces. R.T.L.

91—Revista Brasileira de Biologia.

- a. FREITAS, J. F. TEIXEIRA DE, 1941.—“Sobre alguns trematódeos parasitos de rãs.” 1 (1), 31-40.

- b. MACHADO FILHO, D. A., 1941.—“Sobre alguns acantocéfalos provenientes do Estado de Mato Grosso.” 1 (1), 57-61.
- c. TRAVASSOS, L., 1941.—“Sobre o *Lyperosomum rudectum* Braun 1901. Um equívoco na descrição deste parasito.” 1 (1), 83-85.
- d. FREITAS, J. F. TEIXEIRA DE, 1941.—“Novo trematódeo paranfistomídeo parasito de rã—*Catadiscus inopinatus* n.sp.” 1 (2), 121-123.
- e. JANSÉN, G., 1941.—“Sobre um novo tipo de Dicrocoeliidae *Evandrocotyle paraense* n.g., n.sp.” 1 (2), 125-127.
- f. TRAVASSOS, L., 1941.—“*Eurytrema ellipticum* n.sp. (Trematoda, Dicrocoeliidae).” 1 (2), 201-202.
- g. MACHADO FILHO, D. A., 1941.—“Sobre alguns acantocéfalos do Estado do Pará.” 1 (2), 223-226.
- h. RIBEIRO, D. J., 1941.—“Contribuição para o conhecimento da fauna helmintológica de Minas Gerais. *Eurytrema minensis* n.sp., parasito de *Dasyatis novemcinctus* L.” 1 (2), 235-237.

(91a) Freitas describes some plagiorchid trematodes from Uruguayan frogs, including *Plagiorchis lenti* n.sp., *Glypthelmins simulans* n.sp. and *G. proximus* n.sp. *G. subtropica* Harwood is redescribed with emendations, and a redescription is given of *G. palmipedis* (Lutz)—syn. *Metorchis leptodactylus* Savazzini—and its habitat in the lungs of frogs and toads is found to be a natural and not an accidental one. Figures showing variations in individuals of different ages are given for most of these species. N.G.S.

(91b) Included in a collection of Acanthocephala from Salobra, Mato Grosso, and reported on by Machado Filho, is a new species, *Quadrigyus brasiliensis*, from the intestine of *Hoplerhynchus unitaeniatus* (type host) and *Hoplias malabaricus*. It is chiefly characterised by the possession of 3 rings of 12 hooks each, and of closely juxtaposed testes. B.G.P.

(91c) Travassos re-examines *Lyperosomum rudectum* Braun from new material from the bile ducts and gall bladder of *Harpiprion caerulescens*, and he shows that the vitellaria are unilateral and that Braun evidently mistook the bilateral pigmented bands for vitellaria. He concludes that the true position of this dicrocoelid is indicated by the designation *Athesmia rudecta* (Braun, 1901) n. comb. N.G.S.

(91d) Freitas describes *Catadiscus inopinatus* n.sp. a parasite of the large intestine of the South American whistling frog, *Leptodactylus ocellatus*, in the state of Mato Grosso, Brazil. It is distinguished by its vitellaria which are in the form of large follicles and lie in a lateral field extending from the anterior third of the caeca to roughly the middle of the body. Its nearest relation is *C. marinhoi* Lutz. P.A.C.

(91e) Jansen creates the new genus *Evandrocotyle* to hold a new species *E. paraense*, a trematode parasite of the bile ducts and gall bladder of the mammal, *Caluromys philander*, from the district of Pará, Brazil. The genus is attached to the Dicrocoeliidae and should include *Dictyonogruptus pipistrelli* Sandground, 1937 [see Helm. Abs., Vol. VI, No. 732d], and probably also *Eurytrema koschewnikowi* Skrjabin & Massino, 1925. P.A.C.

(91f) Travassos describes *Eurytrema ellipticum* n.sp., a dicrocoelid parasite of the gall bladder of the tanager, *Thraupis sayaca*, from Mato Grosso, Brazil. It is readily distinguished by the testes being outside the caeca and the deferent canals uniting before entering the cirrus sac. Furthermore the walls of the caeca are so thin that they are difficult to distinguish below the level of the ovaries. P.A.C.

(91g) Machado Filho records the presence of a number of Acanthocephala in the State of Pará, Brazil. *Centrorhynchus tumidulus* from *Crotophaga* sp., *Travassosia carinii* from *Tatus* sp., *Hamanniella microcephala* from *Didelphis* sp., *Prosthenorchis elegans* from *Saimiri sciurea*, *P. spirula* from *Tayra barbara* and *Gigantorhynchus echinodiscus* from *Tamandua tetradactyla* are all well-known species. He creates the new species *Gigantorhynchus lutzi* n.sp. to cover 9 specimens which he recovered from the small intestine of the mammal, *Caluromys philander*. The species presents a pseudo-strobilation. The proboscis carries a relatively small number of hooks, of two different sizes, arranged in alternating rings. It differs from the type species also in the size of various organs and in the nature of the prostate glands. P.A.C.

(91h) Ribeiro creates the species *Eurytrema minensis* n.sp. to hold some parasites which he recovered from the pancreas of an armadillo, *Dasypus novemcinctus*, which died at Jaboticatubas in Minas Gerais, Brazil. There was a certain amount of variation between specimens, particularly in the size of the ova. It is characterized mainly by the vitellaria which are arranged in extensive follicles lying between the caeca, and by the shortness of the caeca. The uterus is entirely intra-caecal and contains a very large number of eggs: the acetabulum lies anteriorly. It possesses cuticular papillae but no scales. P.A.C.

92—Revista de Medicina Tropical y Parasitología, Bacteriología, Clínica y Laboratorio.

- a. UNANUE, E. & LEÓN, F., 1941.—“Dos casos de *Fasciola hepatica*.” 7 (1/2), 3-4.
- b. CRAM, E. B., JONES, M. F. & REARDON, L., 1941.—“The incidence of pinworms (*Enterobius vermicularis*) in various population groups.” 7 (1/2), 4-6.
- c. ACKERT, J. E., 1941.—“The cat as a host of the nematode *Physaloptera felidis* Ackert.” 7 (1/2), 7-8.

(92a) Unanue & León report two human cases of fascioliasis from Cuba, diagnosed from eggs in faeces and in duodenal contents, for one of which clinical data are presented. B.G.P.

(92b) School children of the Latin-American population of Tampa, Florida, showed 71 (16%) infested with *Enterobius* out of 438, as revealed by one NIH swab per child taken at home. White women at a mental institution in Georgia showed 83 (50%) positive out of 165, from approximately 3 NIH swabs per person. White boys at an orphanage in Washington, D.C., showed 14 positive out of 17, from approximately 4 NIH swabs per boy. M.R.Y.

(92c) *Physaloptera felidis* is a common parasite of cats at Manhattan, Kansas, 45.6% being infected out of 193 cats. It is noted that in 4 out of 7 infections with *Ancylostoma caninum* worms occurred in the stomach. The percentage of infection with hookworm was 61.5%. R.T.L.

93—Revue Suisse de Zoologie.

- a. SCHMELZ, O., 1941.—“Quelques cestodes nouveaux d'oiseaux d'Asie.” 48 (1), 143-199.

(93a) An examination of helminths from a variety of Asiatic birds has revealed 9 new species. Schmelz describes these and also discusses the genera *Cladotaenia* and *Paracladotaenia*. *Paronia bocki* n.sp., from *Megalaema virens* and *Cyanops ramsayi*, is distinguished by the fact that in the mature state the uterus is single, by the testes which number at least 200, and by its long cirrus sac. *Davainea baeri* n.sp., from *Gecinus nigrigenis*, may have as many as 37 segments, has unilateral genital pores, a large number of hooks but few testes. *Raillietina* (R.) *fausti* n.sp., from *Gecinus canus*, has a double crown of hooks of different lengths, has 18 to 20 testes and a uterus which breaks up into 50 egg sacs. R. (R.) *clairae* n.sp., also from *G. canus*, has a very small head, rostellum and suckers—the egg sacs lie within the field bounded by the excretory canals. R. (Paroniella) *siamensis* n.sp., from *Thereiceryx lineatus* and *T. phaeostriatus*, is recognised by the shape of the rostellar hooks: it has no internal seminal vesicle. R. (P.) *pinsonae* n.sp., from *Gecinus nigrigenis* and *G. chirrolophus*, is a small worm with fewer than 180 rostellar hooks. The uterine capsules are completely separate. *Biuterina fuhrmanni* n.sp., from *Emberiza aureola*, may have as many as 28 testes. It has a single crown of hooks, all of the same size. *Hymenolepis linderi* n.sp., from *Syrrhaptes paradoxus*, has an unarmed rostellum, while *Diorchis anomala* n.sp., from *Anas* sp., can be distinguished by the size of its hooks and cirrus sac. P.A.C.

94—Science.

- a. PENNER, L. R., 1941.—“The possibilities of systemic infection with dermatitis-producing schistosomes.” 93 (2414), 327-328.

(94a) It has generally been assumed that the cercariae causing “swimmer’s itch” in the U.S.A. are unable to set up a systemic infection in man. Using cercariae of *Schistosomatium douthitti* from *Stagnicola reflexa*, as being the most likely of these cercariae to continue development in man, Penner exposed a rhesus monkey to the cercarial output of 28 snails and obtained migrating worms in the lungs at post-mortem examination 5½ days later. B.G.P.

95—Svensk Veterinärtidskrift.

- a. HÜLPHERS, G., LILLENGEN, K. & HENRICSON, T., 1941.—“Meddelande från jägarförbundets viltundersökning.” 46 (6), 182-199.

(95a) Hülphers and co-workers report on examinations of hares, grouse, partridges, pheasants and ptarmigan carried out in Sweden during 1939. In hares infections with lungworms and trichostrongyles were common. There was one case of *Trichuris* infection. The wild birds were often infected with ascarids, *Capillaria* and cestodes: *Syngamus trachea* was also recorded. Mention is also made of infection with liver-fluke in an elk. A.E.F.

96—Tierärztliche Rundschau.

- a. KELLER, H., 1941.—“Zur Frage der Uebertragbarkeit von Darmtrichinen durch Vogelfaeces.” 47 (10), 127-129.
 b. BUGGE, G., 1941.—“Ueber Muskel- und Herztrichinen.” 47 (14), 175-179.
 c. HILL, W., 1941.—“Starker Befall von Enten mit *Echinuria uncinata* (Magenwurmsuche).” 47 (17), 211-212.
 d. SPIEGL, A., 1941.—“Ein seltener Parasitenbefund beim Huhn.” 47 (21), 263-264.

- e. LÜTJE, F., 1941.—"Wild und Wildkrankheiten im Regierungsbezirk Stade." 47 (22), 267-275.
- f. SCHMIDT, H. W., 1941.—"Trichinenübertragung durch Fuchs und Dachs unterbinden. Zusammenfassendes Referat." 47 (26), 311-314.
- g. MATOFF, K., 1941.—"Experimentelle perianale Infektion mit *Trichinella spiralis*." 47 (29), 349-351; (30), 357-361.
- h. LEINEMANN, 1941.—"Fuchstrichinose." 47 (33), p. 398.

(96a) Keller shows experimentally that birds are not readily able to transmit *Trichinella* by digesting the larvae and passing them out in a viable form in the faeces, as such exsheathed larvae, if taken up by a possible definitive host, would undergo digestion in the stomach within a very short time. Sheathed larvae can withstand the action of gastric juice for at least 48 hours, but it is not yet known precisely when exsheathing occurs. P.A.C.

(96b) Bugge demonstrates that the genitalia can be recognized, and the sexes differentiated, in the encapsulated larvae of *Trichinella* within the muscles. Larvae which find their way to the heart muscles remain in the young stage and never form a cyst; they are withdrawn into the capillaries and disappear from the host. P.A.C.

(96c) Hill describes the pathological changes in ducks occasioned by the presence of heavy infestations with *Echinuria uncinata*. The worms caused heavy losses among the ducks. There was intense thickening of the inner lining of the crop with sloughing of the mucosa. P.A.C.

(96d) Spiegl records the presence of *Echinostoma revolutum* in a fowl causing thickening of the walls of the caeca and punctate haemorrhages. P.A.C.

(96e) Examinations of 244 wild animals and birds from the Stade district (Province of Hanover), carried out over a period of 5 years, are reported on by Lütje. From 77 roe-deer the following infections are reported: liver-fluke 18 cases, lungworm (*Protostrongylus capreoli* and/or *Dictyocaulus viviparus*) 14, *Haemonchus contortus* 6, hydatid 1, and *Cysticercus tenuicollis* 1. From 131 hares: *Graphidium strigosum* 9, *Cysticercus pisiformis* 3. The 6 foxes examined included 2 harbouring *Thominx aerophilus*; one ferret, out of 2 examined, had hydatid. A.E.F.

(96f) Schmid stresses the importance of foxes and badgers in the transmission of *Trichinella* to wild boars and pigs, and so to man. It is estimated that 4% of foxes in Germany harbour *Trichinella* and that the percentage in badgers may be even higher. Great care should be taken to ensure that pieces of flesh which may become detached during the skinning of these animals are not consumed by domestic animals. Carcasses must be burned, or buried to a depth of at least one metre. The practice of using fox and badger flesh as bait should be discontinued. Man is unlikely to become infected directly by fox and badger flesh, as all such meat intended for human consumption is subjected to obligatory *Trichinella* inspection. A.E.F.

(96g) Matoff's experiments show that *Trichinella* larvae injected into the anus or rectum of guinea-pigs, rabbits, young dogs (no infection was obtained in adult dogs, possibly because of an acquired immunity), and cats reach maturity and produce embryos in the rectum and colon. Experi-

mental animals examined from the 20th day after peranal infection showed encysted larvae in the muscles. A.E.F.

(96h) Impressed by the high incidence of *Trichinella* in foxes reported from various districts in Germany, Leinemann arranged for all fox carcasses from the Frankfurt-on-the-Oder district to be post-mortemed. Of the 179 foxes examined over a period of 3 months not one harboured *Trichinella*. Leinemann suggests that such investigations should be made all over Germany so that special measures could be taken, in districts where foxes were found to be infected, to prevent the spread of trichinellosis to domestic animals and man. A.E.F.

97—Transactions of the American Microscopical Society.

- a. HUSSEY, K. L., 1941.—“Comparative embryological development of the excretory system in digenetic trematodes.” 60 (2), 171-210.
- b. WALL, L. D., 1941.—“*Spirorchis parvus* (Stunkard) its life history and the development of its excretory system (Trematoda: Spirorchidae).” 60 (2), 221-260.
- c. RODGERS, L. O., 1941.—“A new dilepidid tapeworm from a cardinal.” 60 (2), 273-275.

(97a) Hussey has studied the early development of the excretory system in 14 representatives of 9 families of digenetic trematodes. The fork-tailed cercaria has the most primitive type: the original excretory pores become the excretory pores of the cercaria. In the amphistomes muscular tissue forms around the bladder, the original pores in the tail close and a secondary pore develops where the fused tubes make contact with the body wall just anterodorsal to the acetabulum. The same condition develops in the echinostomes. In the opisthorchids a heavy epithelial wall is added to the primary bladder. In the hemiurid cercaria all caudal parts of the excretory system are lost before the cercaria reaches maturity. The complete excretory system and its development constitute an important basis of classification in these 9 families. R.T.L.

(97b) Wall gives a detailed account of the life-history of *Spirorchis parvus* (Stunkard)—a monostome blood fluke of turtles—which he has completed under experimental conditions. The adult lives in the arteries of the intestine and pyloric stomach of *Chrysemys picta* in Michigan. Miracidia develop into mother sporocysts and these give rise to daughter sporocysts in the snails *Helisoma trivolvis* and *H. campanulatum*; the resulting cercariae, which have a dorsal crest and furcal fin folds, penetrate the softer tissues of the turtle and reach maturity in that host in 3½ months. The behaviour and minute structure of the developmental stages is described, and comparisons with other cercariae indicate that *Cercaria bombayensis* No. 13 Soparker, *C. echinocauda* O'Roke, *C. elephantis* Cort, *C. indica* XXV Sewell, *C. parvus* Stunkard, and *C. wardi* Miller form a natural group, and that it is possible that the last two may be identical. If this is so, the name *C. parvus* has priority over *C. wardi*. N.G.S.

(97c) *Anonchotaenia rostellata* n.sp., from *Cardinalis cardinalis cardinalis* in Oklahoma, differs from the 12 recognized species of the genus in the small size of the cirrus pouch and of the suckers, and in the presence of a rostellum. R.T.L.

98—Tropical Diseases Bulletin.

- a. MANSON-BAHR, P., 1941.—“The nomenclature of the *Filaria* of the Pacific producing non-periodic embryos (*Wuchereria pacifica*).” 38 (7), 361-367.

(98a) On the ground that the recently discovered adult of *Filaria malayi* Brug differs in minute and not readily ascertainable details, such as the breadth of the spicules, from *Wuchereria bancrofti*, Manson-Bahr regards the question whether morphological distinctions in adult filarial worms are of themselves sufficiently valid in the zoological sense to determine specific rank, and he expresses the opinion that “Pathological effects, peculiar geographical distribution, and selective capacity for insect intermediaries may henceforth be considered to be of determinative value” and draws the conclusion that the non-periodic filaria of the Pacific with its optimum host *Aedes variegatus* should be recognized as a distinct species which he names *Wuchereria pacifica*. The view that *W. pacifica* is not identical with *W. philippinensis* is based on a study of the original illustrations published by Ashburn & Craig. Manson-Bahr concludes from this that *W. philippinensis* may be the same form as that later named *F. malayi* “in which the periodicity for some reason or other may have been disturbed,” claiming that “Periodicity is an inherent quality and as such is distinctive to a species as is any structural feature”.
: R.T.L.

99—Veterinary Bulletin. U.S. Army. Washington.

- a. MacKELLAR, jr., R. S., 1941.—“The treatment of horses for strongylosis with Quar cyl.” 35 (1), 20-23.
b. JAMES, H. D., 1941.—“A type survey of parasitic ova in the faeces of military horses.” 35 (1), 46-51.

(99a) MacKellar states that the arsenical preparation “Quar cyl” has been given to 60 horses of different sizes: the dose [not given] yields results against strongyles [not given] which are “gratifying in many respects”.
B.G.P.

(99b) Using Sheather's method of sugar floatation to concentrate the eggs in the faeces of 50 army horses, James found *Ascaris* and/or *Strongylus* in all but one. The three species of *Strongylus* were differentiated from the infective larvae, and oddly enough they were all pure-line infestations or mixed only with *Ascaris*.
B.G.P.

100—Veterinary Record.

- a. ANON, 1941.—“Fatal trichiniasis infection.” 53 (28), p. 410.
b. HOLMAN, H. H. & PATTISON, I. H., 1941.—“A study of the blood picture of lambs suffering from parasitic gastritis.” 53 (34), 491-498.

(100a) Under “Notes and News” a report is given of a coroner's inquest at Lewisham on a case of *Trichinella* infection in a woman aged 69 who died in St. Alfege's Hospital, Deptford, near London. R.T.L.

(100b) Holman and Pattison have studied the blood picture of 35 lambs with parasitic gastritis, before and after treatment with Phenovis (phenothiazine) at 0.75 g. per kg. (excluding 17 controls). Treatment led to an increase in weight, decrease in egg-count (especially eggs of the tricho-

strongyle type), little effect on the leucocyte picture, and a fall in the red count and in haemoglobin. The anaemia associated with parasitic gastritis is hypochromic and macrocytic, and probably of alimentary origin (i.e. predominantly neither haemorrhagic nor haemolytic): it is pathologically unimportant. Eosinophilia, where it occurs, is associated with the recovery process. B.G.P.

101—Wiener Tierärztliche Monatsschrift.

- a. BACHLECHNER, K., 1941. "Beitrag zur Rinderfinnenbekämpfung in der Ostmark." 28 (1), 1-7.
- b. BAUMANN, R. & BÖHM, L. K., 1941.—"Cysticercose des Lendenmarkes beim Hunde." 28 (1), 7-14.

(101a) Bachlechner estimates that from 0.2% to 0.3% of Austrian cattle harbour *Cysticercus bovis*. Investigations made to determine the sources of infection showed that the alpine valleys, which are rich in cattle, have very definite foci of infection. In the control of *Cysticercus bovis* it is important that all persons who come into contact with cattle should be systematically examined for *Taenia*, and those found to be carriers should be passed on to a hospital. The necessity of intensive propaganda among rural populations is also stressed. A.E.F.

102—Zeitschrift für Fleisch- und Milchhygiene.

- a. KOLBE, F., 1941.—"Neueres über die Trichine V. Übersichtsreferat." 51 (8), 99-102.
- b. KELLER, H., 1941.—"Wandel und Stand der Untersuchungen über die Gesundheitsschädlichkeit der Muskelfinnen des Schafes und Rehes." 51 (8), 102-105.
- c. SCHMID, F., 1941.—"Die Diagnose der Trichinose beim Menschen." 51 (9), 113-116.
- d. ANON, 1941. "Zur Trichinose in Plauen." 51 (17), p. 238.

(102b) Though *Cysticercus cellulosae* has been reported in the past from both sheep and deer, all the evidence points to the fact that such records are mistaken. "*Cysticercus cellulosae*" from the sheep is probably *C. ovis*; from the goat is *C. caprioli*. Both these cysticerci seem to be non-pathogenic and meat containing such cysts is suitable for human consumption. P.A.C.

(102c) Schmid points out that war conditions have increased the importance of trichinelliasis (especially among German soldiers in occupied countries). He takes the opportunity to review methods of diagnosis of the disease, including examination of blood and faeces, immunological tests, and muscle biopsy. A.E.F.

(102d) After consuming pork sent from Poland 4 members of a family at Plauen (Saxony) became ill with trichinelliasis: 2 of the patients died. A.E.F.

NON-PERIODICAL LITERATURE.

- 103—BAYLIS, H. A. & MONRO, C. C. A., 1941.—"Instructions for collectors, No. 9a. Invertebrate animals other than insects." British Museum (Natural History), London, pp. vi+73 pp.
- 104—GREAT BRITAIN. WAR OFFICE, 1941.—"Medical diseases in tropical and sub-tropical areas." London, 6th edit., 282 pp.